

(1) Proof of physical limits on the ability of the reusable suborbital rocket to leave the operating area; or

(2) Abort procedures and other safety measures derived from a system safety engineering process.

(b) An applicant must identify, describe, and provide verification evidence of the methods and systems used to meet the requirements of § 437.59 to conduct any key flight-safety event so that the reusable suborbital rocket's instantaneous impact point, including its expected dispersions, is over unpopulated or sparsely populated areas, and to conduct each reusable suborbital rocket flight so that the re-entry impact point does not loiter over a populated area.

#### **§ 437.33 Landing and impact locations.**

An applicant must demonstrate that each location for nominal landing or any contingency abort landing of the reusable suborbital rocket, and each location for any nominal or contingency impact or landing of a component of that rocket, satisfies § 437.61.

#### **§ 437.35 Agreements.**

An applicant must enter into the agreements required by § 437.63, and provide a copy to the FAA.

#### **§ 437.37 Tracking.**

An applicant must identify and describe each method or system used to meet the tracking requirements of § 437.67.

#### **§ 437.39 Flight rules.**

An applicant must provide flight rules as required by § 437.71.

#### **§ 437.41 Mishap response plan.**

An applicant must provide a mishap response plan that meets the requirements of § 437.75(b).

### **Subpart C—Safety Requirements**

#### **§ 437.51 Rest rules for vehicle safety operations personnel.**

A permittee must ensure that all vehicle safety operations personnel adhere to the work and rest standards in this section during permitted activities.

(a) No vehicle safety operations personnel may work more than:

(1) 12 consecutive hours,

(2) 60 hours in the 7 days preceding a permitted activity, or

(3) 14 consecutive work days.

(b) All vehicle safety operations personnel must have at least 8 hours of rest after 12 hours of work.

(c) All vehicle safety operations personnel must receive a minimum 48-hour rest period after 5 consecutive days of 12-hour shifts.

#### **§ 437.53 Pre-flight and post-flight operations.**

A permittee must protect the public from adverse effects of hazardous operations and systems in preparing a reusable suborbital rocket for flight at a launch site in the United States and returning the reusable suborbital rocket and any support equipment to a safe condition after flight. At a minimum, a permittee must—

(a) Establish a safety clear zone that will contain the adverse effects of each operation involving a hazard; and

(b) Verify that the public is outside of the safety clear zone before and during any hazardous operation.

#### **§ 437.55 Hazard analysis.**

(a) A permittee must identify and characterize each of the hazards and assess the risk to public health and safety and the safety of property resulting from each permitted flight. This hazard analysis must—

(1) Identify and describe hazards, including but not limited to each of those that result from—

(i) Component, subsystem, or system failures or faults;

(ii) Software errors;

(iii) Environmental conditions;

(iv) Human errors;

(v) Design inadequacies; or

(vi) Procedural deficiencies.

(2) Determine the likelihood of occurrence and consequence for each hazard before risk elimination or mitigation.

(3) Ensure that the likelihood and consequence of each hazard meet the following criteria through risk elimination and mitigation measures: